also was observed in a woman who had suffered from lupus of the upper lip and the nose. The histological changes present in this lesion were like those seen in ordinary lupus tissue.

As to the etiology of lichen scrofulosorum, Klingmüller believes it is an affection which occurs only in tuberculous subjects, not as the direct effect of the tubercle bacillus, but through toxic materials produced by this organism. Lupus vulgaris is caused by virulent tubercle bacilli capable of multiplication. As the skin and subcutaneous tissue do not offer favorable conditions for their multiplication, they are found in small numbers. The author thinks the case of inoculation lupus reported makes the supposition probable that the extensive tissue changes in lupus arise from the action of toxic matter coming from the bacilli, which may be either an excretion product of the living organism or an extract of dead bacilli.

PATHOLOGY AND BACTERIOLOGY.

UNDER THE CHARGE OF
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The Elastic Tissue of the Ventricles of the Heart.—POSCHARISKY (*Ziegler's Beiträge*, 1904, Band xxxv. p. 510) studied the elastic tissue of the ventricles in a number of animals and in fifty individuals dead of various diseases. Of these fifty hearts only one was normal. Sections through the ventricle of this normal heart showed that the adventitia about the large bloodvessels was richly provided with elastic fibres, which ran from this zone along the coarser bundles of connective tissue that pierce the ventricular wall as well as into the heart's flesh, where they surrounded the muscle cells in the form of loops. From the epicardium as well as from the endocardium elastic fibres spread along the vessels into the myocardium. In 70 per cent. of the hearts from persons over forty years of age an increase could be made out in the intermuscular elastic fibres. In persons under this age it was rare to find such an increase. The striking hyperplasia of the elastic tissue seen in chronic myocardial affections appeared either in the adventitia of the vessels or in the outer layer of the endocardium, but the intermuscular fibrils played no part in the process.

Improved Technique of Agglutination Test in Typhoid Fever; the Use of Formalized Cultures.—It has been shown by Pröscher that a twenty-four-hour bouillon culture of bacillus typhosus which has been killed with formalin gives the same specific agglutinating reaction as the living culture when mixed with blood or blood serum from a typhoid-fever patient.

REUDIGER (*Journal of Infectious Diseases*, 1904, vol. i. p. 236) describes a method of using this reaction for clinical purposes. A large quantity of plain bouillon (100 to 1000 c.c.) is inoculated with bacillus typhosus and incubated at 36° C. for twenty-four hours. Afterward 1 c.c of formalin is added for every 100 c.c of bouillon. The culture is now ready for use, except that it must be shaken before it is used, because the dead organisms gradually settle to the bottom. A culture prepared in this manner can be kept for many months. To perform the serum test four drops of the patient's blood are collected in a small test-tube containing 2 c.c. of a 1:500 solution of formalin in distilled water. By this means the blood becomes laked, and a clear solution of the blood in approximately a 1:10 dilution is obtained. To 1 c.c. of the blood solution 4 c.c. of the dead cultures are added, making a dilution of about 1:50. The tube is now set aside. A control tube is made by mixing 1 c.c. of a 1:10 solution of normal blood or 1 c.c. of distilled water with 4 c.c. of the culture. If agglutination takes place the dead organisms collect in clumps, and within an hour or two are seen as a flocculent precipitate settling toward the bottom, leaving the bouillon clear at the end of twelve to twenty-four hours. In a series of experiments the agglutinative reaction obtained with dead and living bacilli were compared, and it was found that the two methods gave practically the same results. This method of performing the serum test with dead bacilli obviates the necessity of living cultures, microscope, and other apparatus outside of a few small test-tubes, and seems to the author suitable for hospitals, boards of health, and private practice.

The Chemistry of the Urine in Diseases of the Pancreas.—It is now admitted by most authorities that in fat necrosis consecutive to certain diseases of the pancreas, the masses of free fatty acids or the combination of them with lime, which constitutes the lesion, are directly derived from the fat of the affected part by the fermentation of the pancreatic secretion, and that the other constituent of the fat molecule, viz., glycerin, is absorbed in the circulation. Catillon has shown that if glycerin is given by mouth to dogs 50 to 60 per cent. of the amount is excreted in the urine. With this idea in mind CAMMIDGE (*Lancet*, 1904, i. p. 782) has studied the urine in cases of pancreatic disease, and finds that by certain methods it is possible to demonstrate a constituent which is not present in normal urines. This substance is glycerin. By heating the urine with nitric acid the glycerin is converted into glycerose. For the detection of glycerose phenylhydrazin was employed. To carry out this test two procedures are necessary:

(*a*) The urine is filtered and 10 c.c. are poured into a small flask; 1 c.c. of strong hydrochloric acid is added, and, a funnel having been placed in the neck to act as a condenser, the flask is placed on a sand-bath and gently boiled for ten minutes after the first sign of ebullition has appeared. A mixture of 5 c.c. of the filtered urine and 5 c.c. of distilled water is then poured into the flask, which is afterward cooled in running water. The excess of acid is now neutralized by slowly adding four grams of lead carbonate, and after standing for a few minutes to allow of the completion of the reaction, the urine is filtered through a moistened filter paper, and the flask is washed out with 5 c.c. of distilled water onto the filter. To the clear filtrate are now added 2 grams of powdered sodium acetate and 0.75 gram of phenylhydrazin hydro-